



January 19, 2022

Dear neighbor,

We hope this letter finds you and your loved ones healthy and safe. As we embark on this new year, we wanted to share some updates about the Balcones Canyonlands Preserve (BCP), and an opportunity to learn more about some important restoration work happening there. These lands remain some of the last wild places permanently conserved to benefit people and wildlife in our rapidly developing region.

Harvesting the Rain

On Friday, January 21 at noon, join us for a free webinar about Reforesting Degraded Landscapes with CityBCP biologist Jim O'Donnell. Sign up here: https://traviscountytexas.zoomgov.com/webinar/register/WN_Iz4DiNS8QI-W194OGPWcgg

About the project: With lots of help from the community, BCP staff and volunteers took on an award-winning ecological restoration project, which was recognized in 2021 by the Environmental Protection Agency's Stormwater and Green Infrastructure Award. CityBCP biologists used historical aerial photographs and ground reconnaissance to identify sites degraded from land clearing and erosion. For these degraded sites, "bioswales" were used to promote water infiltration, soil building, reforestation, and carbon sequestration.

Bioswales are shallow troughs with sloping sides; the swales collect rainwater, and native trees and shrubs are planted along the berms. Similar to terracing on a slope, they are built along contours, and they rehydrate dry hillsides by capturing rainwater and allowing it to absorb into the earth. Keeping water on the land helps reduce flooding and erosion, while also nourishing the new plantings. You can see the construction of a bioswale in this short video: bit.ly/bcpBioswale

The bioswale system at Vireo Preserve, a City of Austin BCP tract next to the BCP's Wild Basin Wilderness Preserve, was implemented as a pilot project in 2019. A similar project, stretching ½ mile in length, was installed on another CityBCP tract called "Double J and T" (JJT) in 2020, and plans are in the works to install more bioswales at the adjacent Travis County Medway BCP tract. To promote reforestation and carbon sequestration, volunteers have planted over 500 native trees and shrubs, as well as native forbs and grasses on the JJT and Vireo Preserve bioswales.

These bioswales reduce fragmentation of native Ashe juniper-oak forests and restore diverse communities of plants and animals. Staff have observed a proliferation of insects, birds, reptiles, and mammals after installation of the bioswales. This wildlife in turn helps to spread native seeds beyond the project sites. While staff's main goal is reforestation, bioswales can also be incorporated into construction and development projects to prevent erosion, sedimentation, and nutrient runoff to improve water quality downstream. You can see photos of the transformation in the attached flyer or join in person on one of the weekly workdays once we're out of COVID Stage 5.

New Protections for Conservation Lands

We are also pleased to announce that the BCP grew in size over the past year. The 216-acre Bright Leaf Preserve, located off Highway 2222 near Mt. Bonnell, has Ashe juniper-oak forest habitat for Golden-cheeked Warblers amid the populated hills of west Austin. This tract was first protected as conservation land by the late Georgia Lucas, with more recent ownership by the nonprofit Austin Community Foundation. In August 2021, it was transferred to Austin Water, ensuring its permanent protection and ecological management as part of the Balcones Canyonlands Preserve.

This past year saw new cave discoveries too. Using TxDOT mitigation funding, City of Austin biologists working to restore BCP caves found a previously unknown cave measuring more than 600 feet long! It is a significant contribution to the BCP karst preserves, adding to the list of cave habitat on protected lands. Newly discovered or restored caves can increase the habitat for endangered cave species and other cave life such as bats.

Visiting the BCP

If you're interested in getting outside and helping the preserve, check out the BCP events calendar: www.traviscountytexas.gov/bcpevents. You can also enjoy the Preserve online through our *Wild Neighbors* webinar series, which are posted on the BCP events calendar. Recordings of past webinars on topics ranging from mitigating wildfire risk to identifying backyard birds and bugs can be viewed at www.traviscountytexas.gov/tnr/nr/videos.

Sincerely,



Travis County Commissioner Brigid Shea
BCCP Coordinating Committee Member



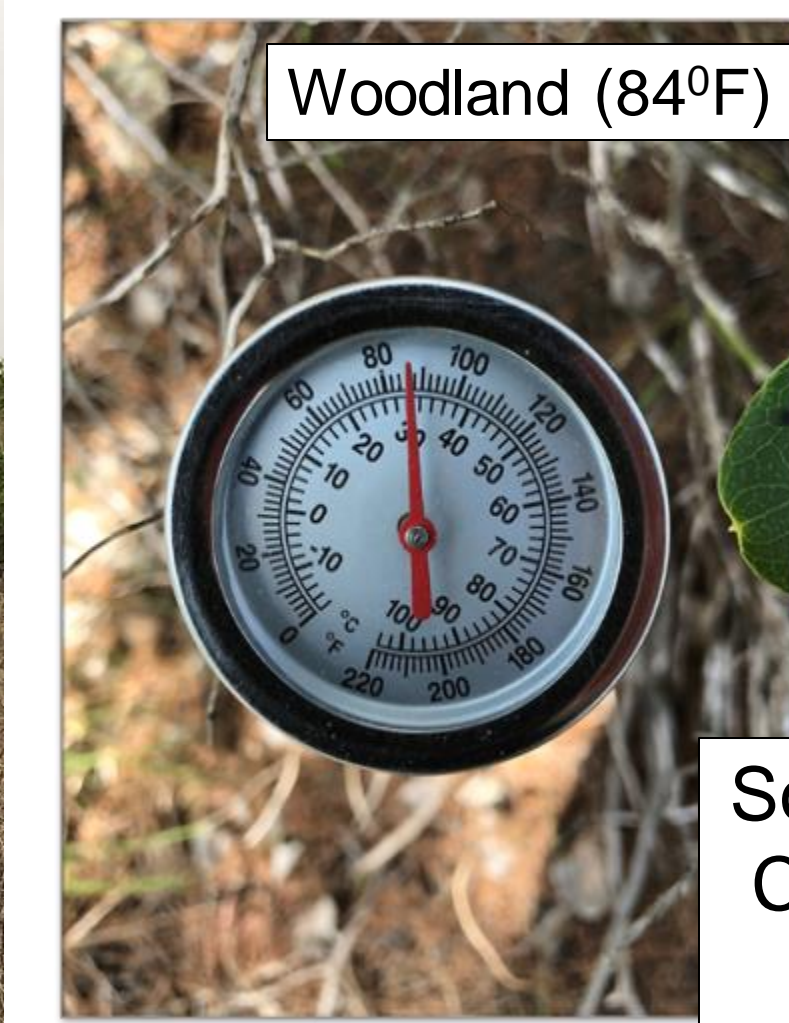
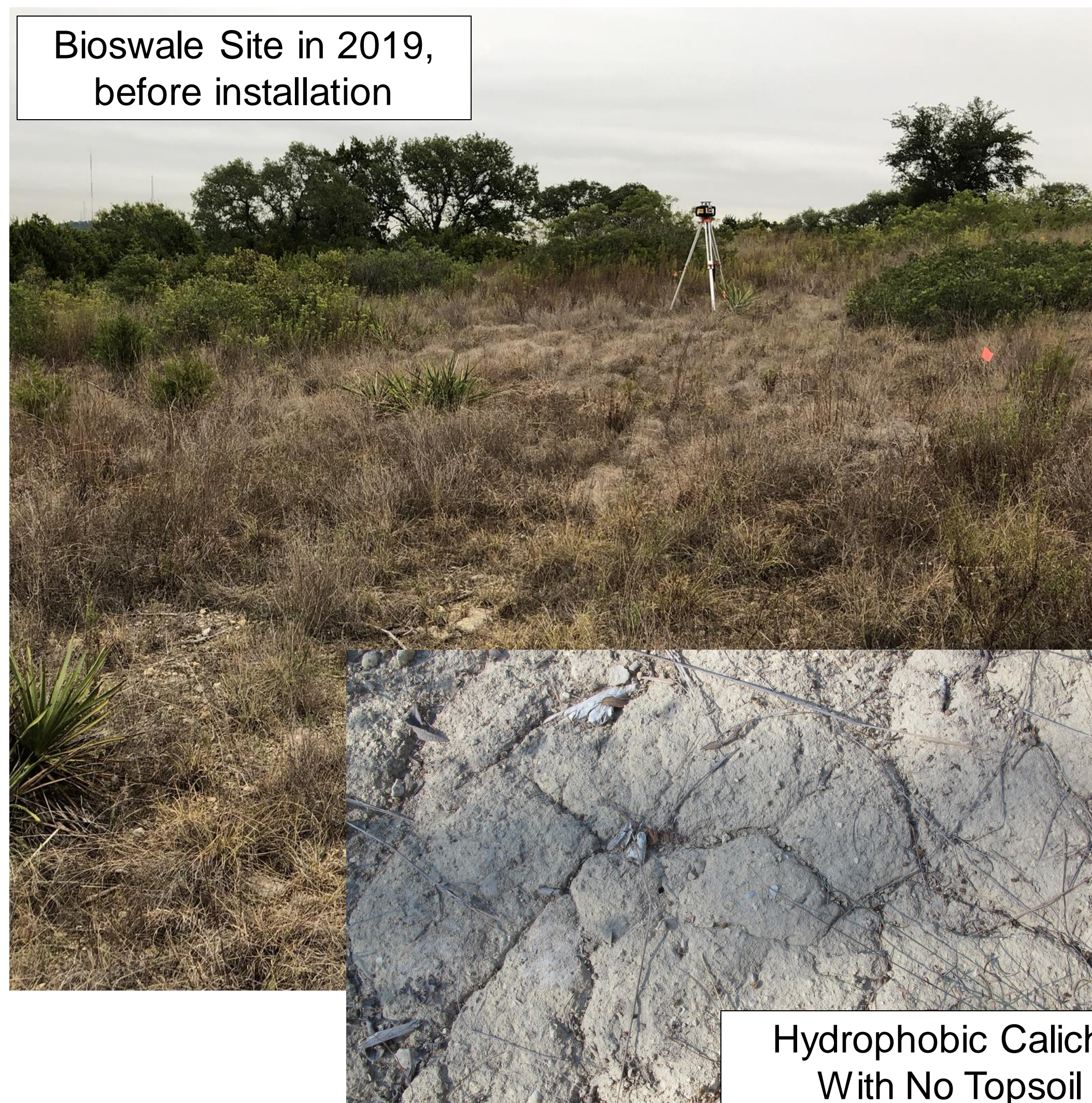
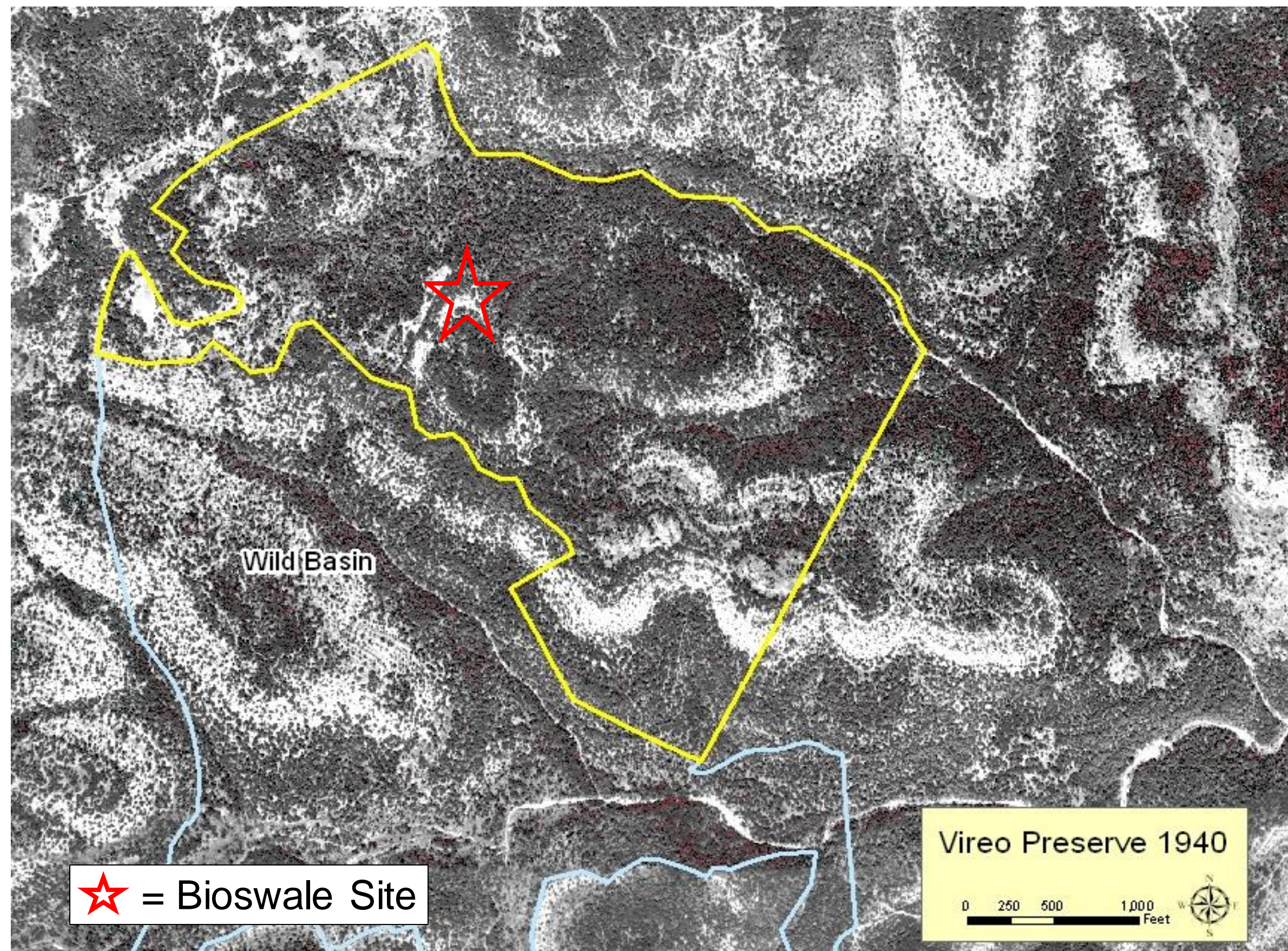
Austin City Council Member Leslie Pool
BCCP Coordinating Committee Member

Using “Bioswales” to Manage Runoff and Restore Native Forest Ecosystems

Jim O'Donnell, Forest Ecosystem Biologist, City of Austin
Balcones Canyonlands Preserve, Vireo Preserve Tract, Austin, Texas

Identifying Degraded Site For Bioswale Project

We chose a site that has a long history of degradation from land clearing and erosion, as evidenced by inspection of historical aerial photographs, large Ashe juniper stumps, and written accounts of brush clearing and fire. Due to soil compaction, heavy rainfall events caused erosion and flooding issues downslope.

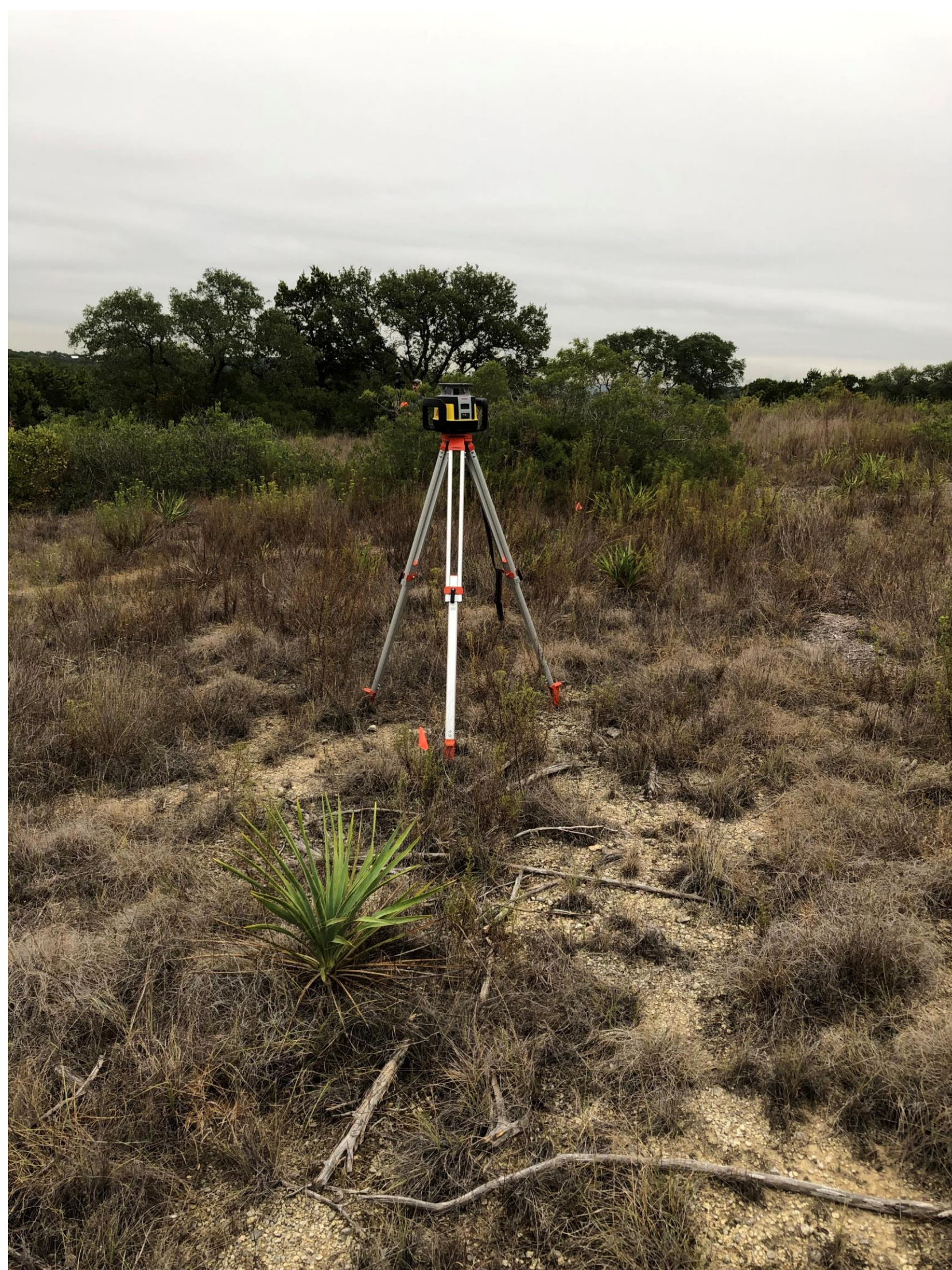


Soil Temperatures in Open Caliche Site >35°F Hotter than Under Adjacent Woodland Canopy (Air Temperature = 104°F)



Installing the Bioswales (Fall 2019)

Using a laser level, we aligned a series of three bioswales on contour, then dug the bioswales using a mini-excavator. We then added compost and mulch to the berms and mulch in the swales.



Our swales capture thousands of gallons of water and plume into the planted berms. Water continues to move slowly downslope irrigating plants and improving soil structure. The system creates a soil sponge.

Harvesting and Planting the Rain

Similar to terracing on a slope, bioswales rehydrate dry hillsides by capturing, spreading and sinking water. Installed high in the landscape, they control erosion, slow rainfall runoff, and reduce flooding. These practices create an abundance of life on a formerly degraded landscape.

Community Support

Our community of staff and volunteers spread the compost and mulch on the bioswales and planted native trees, shrubs, and grasses on and adjacent to the berms.

